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09/922,981	08/06/2001	Michael Braithwaite	IRID-0404	1436

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Woodcock Washburn Kurtz
Mackiewicz & Norris LLP
46th Floor
One Liberty
Philadelphia, PA 19103

EXAMINER

BUGG, GEORGE A

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 10/24/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/922,981

Applicant(s)

BRAITHWAITE ET AL.

Examiner

George A Bugg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33 and 39-43 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-17, 23-32 and 34-38 is/are rejected.
- 7) ☒ Claim(s) 6 and 18-22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. The terms "about and apparent " in claim 2, 5, 7, 11, 12, 23-25, 28, 31, and 34-38 are relative terms which renders the claim indefinite. The term " about and apparent " are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. In claims 2, 5, 7, 11, 12, 35, 36, and 38, the use of the term "apparent" has rendered the expanded capture volume indefinite. In claims 37 and 38, the use of the term "apparent" has rendered the width or depth of the field indefinite. With regard to claims 23-25, 28, and 34, the use of the term "about" has rendered the minimum angular separation of 11.3 degrees indefinite. Lastly, with respect to claim 31, the use of the term "about" has rendered the size of the object, which varies from 6 to 26 inches, as well as the distance between the illuminator and the lens system, which varies from 1.2 to 5.2 inches, indefinite.

Information Disclosure Statement

3. The Examiner would like to know what the relevance of Documents AD and AI, from the IDS dated 11/27/01, are. US Patent No.'s 4,641,560, and 6,005,704 respectively.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 7-10, 12-17, and 26, are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication No. US 2001/0028730 A1 to Nahata, in view of US Patent No. 5,717,776 to Watanabe.

6. As for claim 1, the Nahata reference discloses (Section 47) an iris recognition processing unit, depicted as Element 30, of Figure 2, which performs iris recognition based on an eye image captured by the image capture unit, shown as 21. In addition, Figure 1C shows an expanded capture volume based on varying lens types. Figure 1A shows Elements 131 and 132 as a narrow view angle lens and a cylinder lens, respectively. These two lenses constitute first and second lens systems, as claimed. Referring to Figure 2, these lens systems are part of a multiple view angle camera,

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shown as Element 11, which is coupled to Element 21, or the image capture unit.

Furthermore, as can be seen in Figure 1A, Elements 131 and 132 are offset from one another in one of the X, Y, or Z-axis directions. The limitations involving illuminators cannot be found in the Nahata reference, however the Watanabe reference clearly shows an illumination means, as Element 97, in Figure 6. The eye scan system, shown in Figure 6, is part of the eyesight test machine, depicted as Element 25 of Figure 3. As can be seen in Figure 3, and further described in col. 6, lines 25-49, Element 25 is used to test the eyes of a license renewer, while scanning the eyes simultaneously. It is the contention of the Examiner, that even though Figure 6 only shows one eye being scanned, that since both eyes are tested for vision loss, it would be obvious to scan both eyes, since each eye is tested. Therefore, the system shown in Figure 6 would be doubled, one system for each eye, and thus there are two illuminators, each one positioned outboard of both lens systems, being separated by an X, Y, or Z direction, each one illuminating an eye, while the first illuminator works with the first lens system, and the second illuminator works with second lens system. Therefore it would have been obvious to one of ordinary skill in the art of optics to combine the teaching of Nahata and Watanabe for the purpose of accurate identification. Moreover it should be noted that using light sources in optical systems is well known in the art.

7. As for claim 2, Figure 1C, of the Nahata reference shows an expanded volume capture in Element 141b.

8. As for claim 3, referring to Figures 3 and 6, Element 25 of Figure 3, shows the eyepieces of the eye tester being separated by a known distance, which is equal to an

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average eye separation. The lens systems of Figure 6 would in fact be separated horizontally, or offset in an X-axis direction, a known distance, which corresponds to the separation of the eyepieces of Element 25, in Figure 3. Furthermore, the illuminators and their perspective lens system would also be separated by a known X-axis distance, while being positioned relative to one another.

9. Regarding claim 4, Figure 6 shows a lens system on axis with its perspective eye while positioned in front of the scanner.

10. With regard to claim 5, Figure 1C, of the Nahata reference shows an expanded volume capture in Element 141b, which includes expansion in the X direction.

Furthermore, as previously stated, the system shown in Figure 6 of the Watanabe reference, would be doubled, one system for each eye, and thus there are two illuminators, each one positioned outboard of both lens systems.

11. As for claims 7-10 Figure 1C of Nahata shows an expanded capture volume, wherein the lens systems of Figure 1A are offset in the Z-axis direction. Furthermore, lens 131 is disclosed as a narrow view lens, while lens 132 is disclosed as a cylinder lens, which will optically offset one each lens system in the Z-direction from one another. In addition, each lens would have a different prescription based on the definition of its functionality.

12. Regarding claim 12, it has been shown by the references cited that heights, widths, and depths of capture volumes can be manipulated by offsetting right and left lens systems in a corresponding X, Y, or Z direction.

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13. As for claims 13-15, Section 43 of the Nahata reference discloses a pan-tilt mechanism of the camera, which is depicted as Element 11, of Figure 2, and encompasses the lens systems 131 and 132, shown in Figure 1. In addition, Section 41 discloses iris recognition using an automatic camera system. The word automatic implies auto focus.

14. With regard to claims 16 and 17, Element 25 of Figure 3, shows the eyepieces of the eye tester being separated by a known distance, which is equal to an average eye separation. A user must positioned properly in front of Element 25, with respect to X, Y, and Z coordinates in order to insure proper user recognition. In addition, Element 23 is disclosed as a CRT display, which is a visual indicator, while Element 28 of Figure 2 discloses an audio guide unit.

15. As for claim 26, Section 46 of Nahata discloses the use of a wide view photograph, captured by camera 11, wherein the pan and tilt are controlled by an output signal from the camera. See Figure 2.

16. Claims 27-30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,717,776 to Watanabe, in view of US Patent No. 5,475,460 to Stephenson et al.

17. As for claim 27, Figure 6 of Watanabe shows one lens system for one eye, and a sensor (Element 94) for capturing an image of an object behind a light transmissive structure. A single illumination means, separated from the lens system, is shown as Element 97. Further shown is a separation distance between the eye, or object to be imaged, and the lens system. Watanabe fails to teach the limitations involving an

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angular separation, between a lens system axis, and an illumination axis, however, the Stephenson reference discloses, in column 6, lines 29-56, that highlights, or specular reflections, can be eliminated if the angle of separation between an illuminating axis and a lens axis are separated by an angle greater than 8.5 degrees. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Watanabe and Stephenson for the purpose of reducing glare, as well as image abnormalities.

18. As for claim 28, Stephenson shows an angle of separation greater than 8.5 degrees.

19. With regard to claims 29 and 30, the creation of the lens system axis and the illumination axis, as well as manipulating distances between systems, to ensure a minimum angular separation, are obvious embodiments. Furthermore, Figure 1, of Stephenson, clearly shows that these limitations are met.

20. As for claim 32, both Figure 1 of Stephenson, and Figure 6, of Watanabe disclose the limitations of this claim.

Allowable Subject Matter

21. Claims 6, 11, and 18-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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22. Claims 31 and 34-38 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

23. Claims 33 and 39-43 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George A Bugg whose telephone number is (703) 305-2329. The examiner can normally be reached on Monday-Thursday 7:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

George A Bugg
Examiner
Art Unit 2613

GAB

October 7, 2003


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600